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REGISTER

OF THE

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INSTITUTE.

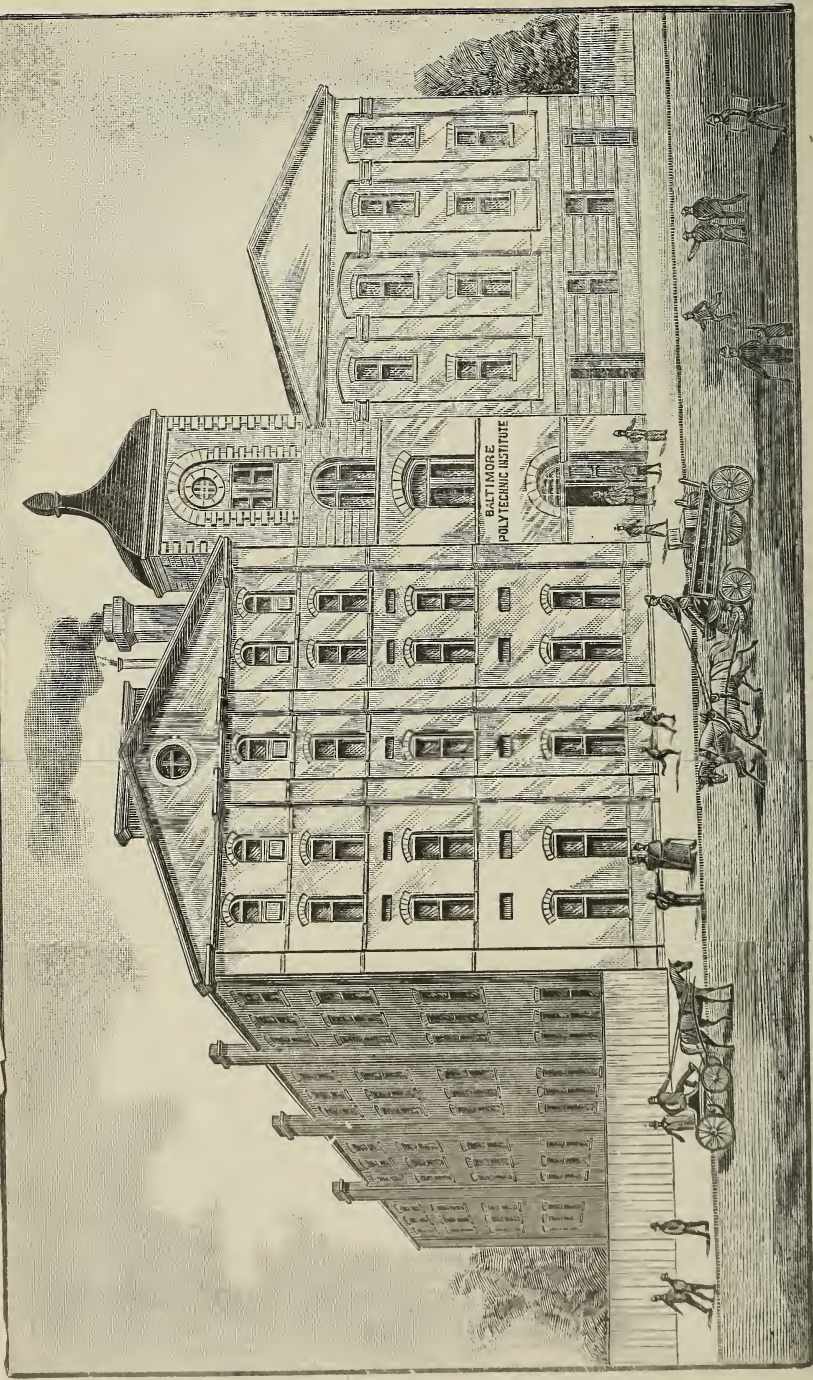
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ANNUAL REGISTER

OF THE

BALTIMORE POLYTECHNIC INSTITUTE,

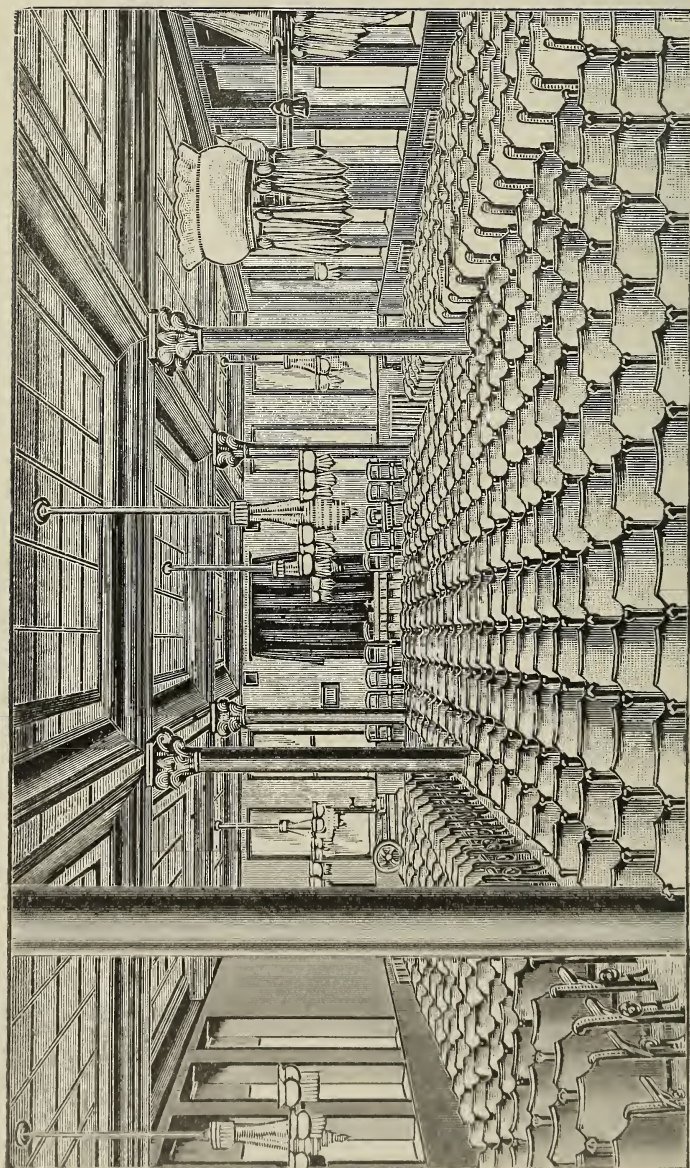
311-331 COURTLAND STREET.

SIXTEENTH ACADEMIC YEAR,

1900-1901.

PRESS OF
J. W. BOND COMPANY,
BALTIMORE.

1900.



THE ASSEMBLY ROOM.

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BALTIMORE POLYTECHNIC INSTITUTE.

HISTORICAL SKETCH.

The Baltimore Polytechnic Institute, the second manual training school established in the United States as part of a public school system, is one of the several educational institutions of the secondary grade maintained by the city of Baltimore.

Although it is believed that tentative efforts to engraft manual training upon the city's school system were made as early as 1873 or '74, yet the action which led to the establishment of this school was not taken until April, 1883. At a meeting of the Board of Commissioners of Public Schools, held on the 24th of that month, Mr. Joshua Plaskitt, Commissioner for the 9th ward, offered a resolution for the appointment of a committee "to consider.....the advisability of establishing a school or schools for manual training." The resolution was adopted, and the committee thus appointed recommended the establishment of a school "for manual education." The necessary enabling ordinances and enactments having been passed by the City Council of Baltimore and the General Assembly of Maryland, the school was organized and opened on February 26th, 1884, under the name "Baltimore Manual Training School," with Dr. Richard Grady as director.

In January, 1886, the faculty was reorganized, Lieut. John D. Ford, an officer of the Engineer Corps of the U. S. Navy, who had been detailed for duty at the school, becoming Principal.

From the opening of the school applicants for admission had been required to pass through the 8th grammar school grade, or to show satisfactory evidence of having had equal instruction; but in September, 1888, it was decided to admit pupils of the 6th, 7th, and 8th grammar grades. This action opened the school to so

large a number of young boys that increased accommodations became imperative, and in June, 1890, the new building, devoted to the academic studies and drawing, was finished and occupied.

Lieut. Ford was recalled to the Naval service in June, 1890, and was succeeded as Principal by John W. Saville, a retired member of the Engineer Corps of the Navy.

In May, 1893, the name of the school was changed to "Baltimore Polytechnic Institute," and the titles of Principal and Vice-principal to President and Vice-president, respectively.

Mr. Saville resigned in August, 1899, and was succeeded as President by Lieut. William R. King, Engineer Corps, U. S. N., the present head of the school.

The new charter of Baltimore went into effect on March 1, 1900, and under one of its provisions it devolved upon the Mayor, Hon. Thomas G. Hayes, to appoint, as the head of the Department of Education, a Board of School Commissioners composed of nine persons, to serve without pay, and to be chosen from among those citizens he deemed "most capable of promoting the interests of public education, by reason of their intelligence, character, education, or business qualifications." The names of the distinguished citizens so chosen will be found on page 12.

Another provision of the charter requires, that "in order to secure the continuance of local interest in, and oversight of the public schools, there shall be appointed by said Board of School Commissioners such number of unpaid School Visitors as may be found requisite." In pursuance of this provision, there was appointed as a Board of Visitors to this institution, a group of gentlemen some of whom are recognized in technical circles throughout the country as being at the head of their respective professions.

The members of the Board of Visitors had no sooner acquainted themselves with the general conditions prevailing in the school—the age and attainments of the pupils of the lower grades, the character of the work done, and the scope of the curriculum—than they submitted to the Board of School Commissioners a very comprehensive and exhaustive report discussing the condition, needs, and aims of the school, and recommending certain changes in the

requirements for admission, and in the curriculum. The partial adoption of this report resulted in the exclusion this year of 6th grade pupils, and the retention of only those 7th and 8th grade boys who had received one or two years shop instruction.

The only accessions made to these grades were of boys who showed a proficiency in wood-working equivalent to one year's instruction.

RECORD OF THE FACULTY,

FROM THE ORIGIN OF THE INSTITUTE TO DECEMBER 1, 1900.

The school was organized on February 26, 1884, under the name "Baltimore Manual Training School ;" this name was changed in May, 1893, to "Baltimore Polytechnic Institute,"

Richard Grady, M. D., D. D. S., Director, February 26, 1884. Services terminated January 11, 1886.

John D. Ford, P. A. Eng. U. S. N., instructor in Drawing and Steam Engineering, February 26, 1884. Principal, January 11, 1886. Recalled to Naval Service, June 30, 1890.

William Dugent, Instructor in Wood Work, February 26, 1884. Transferred to Pattern Shop, January 11, 1886, and was in charge of that department until September 17, 1900.

J. H. W. Onion, Instructor in Pattern Department, March 1, 1884. Services terminated June 30, 1886.

A. Newton Ebaugh, First Assistant in Academic Department, January 11, 1886. Vice President, May, 1893. Transferred to Baltimore City College, June 30, 1896, as Professor of History and Political Economy.

C. F. Friese, Instructor in Metal Department, September 1, 1886. Resigned to accept position in Chicago Manual Training School, June 30, 1891.

W. H. Hall, Assistant Instructor in Physics and Chemistry, September 23, 1886. Head of Department of Physics, Chemistry, and Electricity, September 13, 1899.

William G. Richardson, Assistant Instructor in Machine Department, September 1891. Instructor in Machine Work and Engineering Materials, September 13, 1899.

Andrew J. Pietch, Assistant Instructor in Academic Department, September 1, 1887. Transferred to be Principal of Male Grammar School No. 4, September, 1890.

J. C. McSherry, Assistant Instructor in Academic Department, September, 1887. Resigned, April, 1888.

Richard Piez, Instructor in Mechanical Drawing, September, 1887. Resigned, September, 1891.

Lawrence Griffith, Assistant to the Principal and Instructor in Free-hand Drawing, September, 1887. Resigned, June, 1890.

Richard H. Uhrbrock, Assistant Instructor in Academic Department, May 15, 1888. Vice President and Instructor in Mathematics, September, 1896. Head of Department of Mathematics, September 13, 1899.

John L. Yater, Assistant Instructor in Academic Department, September, 1888. Transferred to be Principal at Annex School No. 14, January, 1899.

Flavius J. Pennington, Assistant Instructor in Wood Department, September, 1888. Resigned April 1, 1889.

David G. Butterfield, Assistant Instructor in Academic Department, September 11, 1888. Transferred to be First Assistant in Male Grammar School No. 20, March 19, 1889.

Thomas G. Ford, Assistant Instructor in Wood Department, October, 1888. Assistant Instructor in Carving and Pattern-making, September, 1887. Instructor in Pattern-making and Wood-turning, September 17, 1900.

John T. Robinson, Assistant Instructor in Sheet Metal Department, October, 1888. Resigned to become Instructor in Sheet Metal Work at the Brooklyn Polytechnic Institute, Brooklyn, N. Y., June 30, 1894.

J. W. Willson, M. D., Assistant Instructor in Academic Department, March 21, 1889. Instructor in Academic Department, September, 1898. Instructor in History and Physiology, September 17, 1900.

George M. Gaither, Assistant instructor in Wood Department, April 1, 1889. Instructor in Carpentry and Carving, September 17, 1900.

John W. Saville, P. A. Engineer U. S. N. (retired), Principal, and Instructor in Steam Engineering, September, 1890. President, and Instructor in Steam Engineering, May, 1893. Resigned, August 31, 1899.

Edward S. Kines, Assistant Instructor in Academic Department, September, 1890. Resigned, October 1, 1894.

J. Henry Laessig, Assistant to Principal and Instructor in Mechanical Drawing, September, 1890. Resigned, June 30, 1893.

Eason Lewis, Lieut. U. S. A., Instructor in Military Drill and Assistant Instructor in Academic Department, November, 1890. Recalled to U. S. Army, April, 1891.

Albert McClean, Instructor in Forge Work, September, 1891. Resigned, January, 1898.

Warren S. Seipp, Instructor in Free-hand Drawing, September, 1891.

B. Wheeler Sweany, Instructor in Mechanical Drawing, September, 1893. Transferred to Baltimore City College as Professor of Drawing, October 1, 1897.

Joseph F. McBee, Assistant Instructor in Academic Department, September, 1893. Transferred to be Principal of Annex School No. 14, June, 1894. Re-transferred to the Baltimore Polytechnic Institute as Assistant Instructor in Academic Department, January, 1899. Dismissed, May, 1899.

Nathaniel D. D. Sollers, Assistant Instructor in Academic Department, September, 1893. Resigned, June, 1894.

Frederick D. J. Kaessmann, Assistant Instructor in Academic Department, September, 1893.

William A. Jones, Assistant Instructor in Sheet Metal Department, September, 1894. Instructor in Sheet Metal Department, September, 1898. Instructor in Forge and Sheet Metal Work, September 17, 1900.

Samuel M. North, Assistant Instructor in Academic Department, September, 1894. Instructor in Academic Department, September, 1898, Head of Department of English, September 13, 1899.

Joseph C. O'Connor, Assistant Instructor in Carpentry, September, 1894. Resigned, June 30, 1897.

Henry Sanders, Instructor in Sheet Metal Department, September, 1894. Resigned, November 30, 1894.

William S. Blake, Assistant Instructor in Academic Department, October 1, 1894. Transferred to Male Grammar School No. 1, January, 1899.

Ralph L. Williams, Assistant Instructor in Academic Department, October 1, 1894. Lost at sea, July 4, 1898.

Frederick W. Wild, Instructor in Sheet Metal Department from December 1, 1894, to September 17, 1900.

B. Harrison Branch, Assistant Instructor in Academic Department and Assistant in Machine Department, October, 1896. Resigned, April, 1898.

Samuel P. Platt, Instructor in Mechanical Drawing, October 1, 1897.

J. C. Mattoon, Assistant Instructor in Academic Department, November 1, 1897. Resigned, February, 1898.

Oliver Bacharach, Assistant Instructor in Academic Department, April, 1898.

William P. Gundry, Assistant Instructor in Academic Department, April, 1898.

J. Edward Broadbelt, Assistant Instructor in Academic Department, September, 1898.

John H. DeValin, Instructor in Forge Work from September, 1898, to September 17, 1900.

Harry R. Ruse, Assistant Instructor in Academic Department from January, 1899, to September 17, 1900.

William R. King, P. A. Eng'r., U. S. N. (retired), President, and Instructor in Engineering and Applied Mechanics, September 1, 1899.

John H. Bramble, Assistant Instructor in Academic Department, October, 1899.

BOARD OF SCHOOL COMMISSIONERS.

JOSEPH PACKARD, Jr., *President*.
THOMAS S. BAER,
DR. DANIEL C. GILMAN,
ALCAEUS HOOPER,
REV. WILLIAM ROSENAU,
MRS. SAMUEL D. SCHMUCKER,
CHARLES H. EVANS,
JAMES H. PHILLIPS,
COL. A. B. CUNNINGHAM.

BOARD OF VISITORS.

CHARLES H. LATROBE, *Chairman*.
FREDERICK W. WOOD,
FREDERICK J. MAYER,
GUSTAVUS W. LEHMAN,
ABRAM H. COLMARY,
JAMES L. MURRILL,
WILLIAM H. ROTHROCK.

SUPERINTENDENT OF PUBLIC INSTRUCTION.

JAMES H. VAN SICKLE.

Calendar for School Year 1900-1901.

| | |
|-----------------------------|-----------------------------------|
| September 17, Monday..... | Opening of Session. |
| November 21, Wednesday..... | Second Quarter begins. |
| November 29, Thursday..... | Thanksgiving Day. |
| December 21, Friday..... | Christmas Vacation begins. |
| January 1, Tuesday..... | Christmas Vacation ends. |
| February 4-8..... | Semi-annual Examinations. |
| February 11, Monday..... | Third Quarter begins. |
| February 22, Friday..... | Washington's Birthday. |
| April 4, Thursday..... | Easter Vacation begins. |
| April 8, Monday..... | Easter Vacation ends. |
| April..... | Arbor Day. |
| April 26, Friday..... | Fourth Quarter begins. |
| May 20-31..... | Examinations of Graduating Class. |
| May 30, Thursday..... | Decoration Day. |
| June 3-14..... | Annual Examinations. |
| June 18, Tuesday..... | Commencement Day. |

The school months end on the following days:

| | |
|---------------|--------------|
| October | October 19. |
| November..... | November 20. |
| December..... | December 21. |
| January..... | February 8. |
| February..... | March 5. |
| March..... | March 27. |
| April..... | April 25. |
| May..... | May 31. |

FACULTY.

WILLIAM R. KING, U. S. N., *President*,
Engineering and Applied Mechanics.

RICHARD H. UHRBROCK, Ph. B., *Vice-President*,
Head of Department of Mathematics.

WILLIAM H. HALL,
Head of Department of Physics and Chemistry.

SAMUEL M. NORTH,
Head of Department of English.

J. WARD WILLSON, M. D.,
History and Physiology.

SAMUEL P. PLATT,
Mechanical Drawing, and Descriptive Geometry.

OLIVER BACHARACH,
Assistant in Mathematics.

FREDERICK D. J. KAESSMANN,
German, and Assistant in English.

*WARREN S. SEIPP,
Free-hand Drawing.

*WILLIAM P. GUNDRY,
Bookkeeping, and Assistant in Mathematics.

*Graduates of this Institute.

JOHN H. BRAMBLE,
Geography, and Assistant in Mathematics.

*J. EDWARD BROADBELT,
Secretary, and Assistant Instructor.

*GALT F. PARSONS,
Graduate Assistant in Physical Laboratory.

MECHANICAL DEPARTMENT.

WILLIAM G. RICHARDSON,
Machine Work, and Engineering Materials.

*THOMAS G. FORD,
Pattern Making, and Wood Turning.

WILLIAM A. JONES,
Forge and Sheet Metal Work.

*GEORGE M. GAITHER,
Carpentry, and Wood Carving.

*Graduates of this Institute.

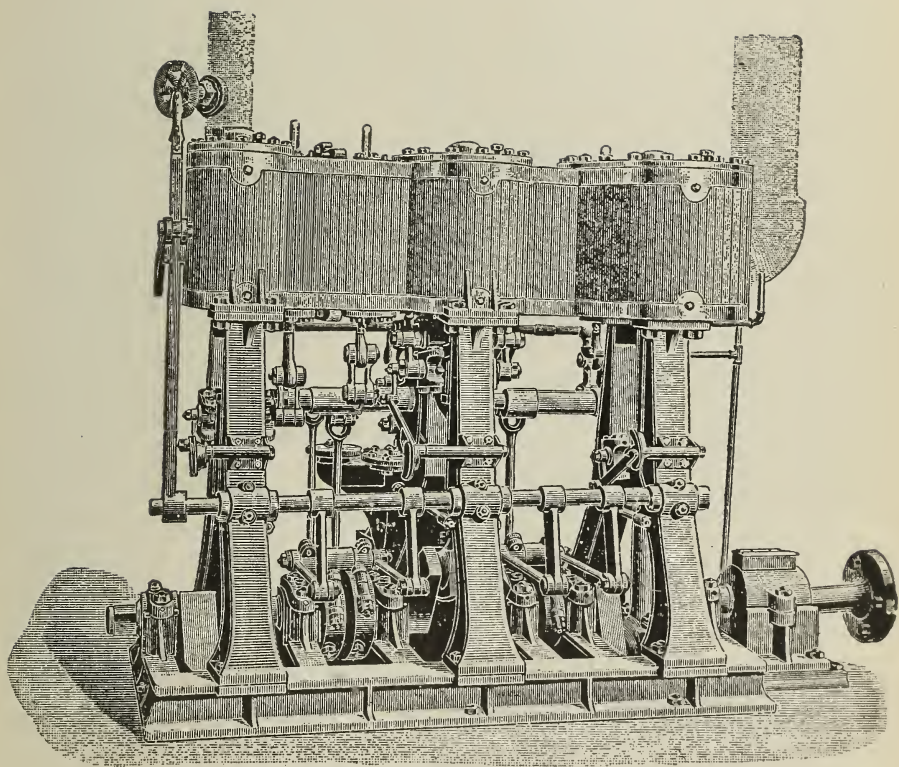
GENERAL STATEMENT OF PLAN AND PURPOSE.

The Baltimore Polytechnic Institute is a part of the public school system of Baltimore, and aims primarily to give a sound English education, the classical studies of Greek and Latin forming no part of its curriculum. Especial care is taken that adequate instruction is given in the college entrance requirements in history, literature, and language, in order that a student in no sense jeopardize his chances for a higher education.

In organization, there are separate departments with executive heads, the president exercising supervision over all.

The mechanical features are of but secondary importance during more than half the course, serving only to give to a boy that healthful and highly valuable manual training which broadens education, and conduces to dexterity, contrivance, and invention.

Recognizing, however, that instruction of a technical character is at least equal, in educational value, to classical instruction, the course is technical in the sense only, that special effort is made so to shape it that in the end a student will have attained some degree of practical skill and intimate knowledge in some one of the professions based on mechanical art and applied science that he may have elected to follow. Thus, for example, the student who may, toward the end of the course, elect to follow electrical engineering as a profession, will be afforded special opportunities for laboratory practice in the manipulation of currents, methods of testing, etc. The student who elects to follow mechanical or steam engineering as a life work, studies the theory of construction and operation of machines, special attention being given to the theory of the steam engine. In the drawing room he is given work in engine and machine design, and in the shops he does some actual work in engine or machine building.



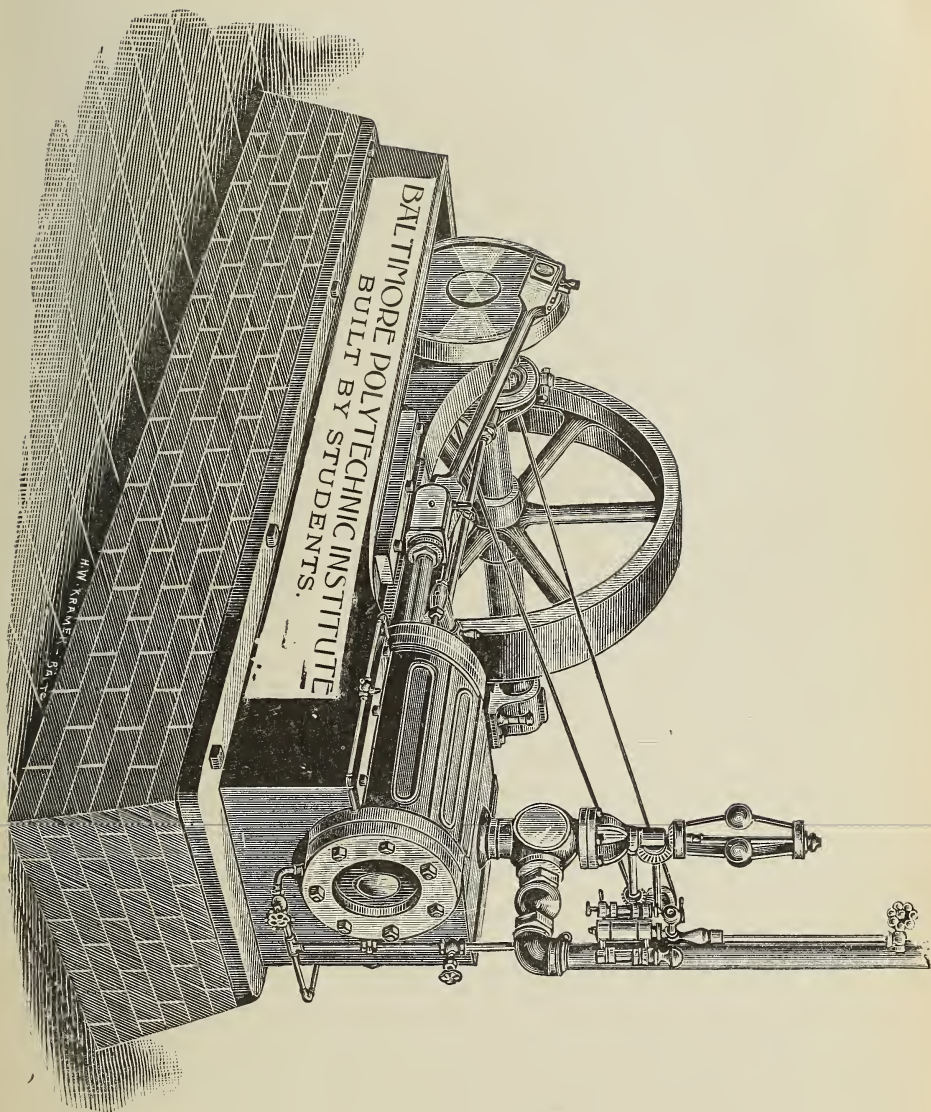
TRIPLE EXPANSION ENGINE.

Built by students after the design of the Bureau of Steam Engineering, Navy Dept.

The engine which now furnishes the motive power of the institute was built by the students, and they have also built double and triple expansion engines of 65 H. P. and 100 H. P. respectively, after designs of the Bureau of Steam engineering of the Navy Department. The students of the senior class are now engaged in building a high speed, automatic cut off engine; and when completed it will be installed to furnish the motive power, and to drive a 25 K. W. dynamo, the parts of which were put together, and the armature wound, by the students. In this manner the practical is made to follow the theoretical to as great a degree as the facilities of the institute permit.

No attempt is made to teach trades, nor is it expected that a high degree of mechanical skill will be attained by the students; but the equipment is of such a nature that the instruction given to the senior class in the shops is designed to be correlative to the work of the class-room, and results are aimed at that will insure success in mechanical pursuits subsequent to graduation. It is believed that instruction in correct methods of using tools, and practical illustrations of how, and for what purpose, things are done, are of more value than mere excellence in hand skill.

The Board of Visitors have recommended that the institute course be increased from three to four years, and that some increased facilities for mechanical and laboratory instruction be afforded; and, in the event of the adoption by the Board of School Commissioners of these recommendations, the course of instruction will be such that a student at graduation will be equipped for entrance to advanced standing in a large institution of technology, should he desire to complete a technical education.



MATERIAL EQUIPMENT.

The building for the academic departments is a four-story brick structure, having a frontage of 144 feet and a depth of 94 feet. It contains the assembly hall, office, library, ten recitation rooms with total seating capacity of 428, physical and chemical laboratory, and two large drawing rooms.

The building for the mechanical departments is a three-story and basement brick structure, having a frontage of 39 feet and depth of 94 feet, containing the machine, pattern, forge, sheet metal, carpentry, and carving shops.

An annex is now used principally for storage purposes, and as a meeting place for the literary society.

The carpentry shop is fitted with twenty-four cabinet benches and a full supply of excellent tools; and here appropriate lectures and exercises are given in the care and use of tools, in planing, sawing, rabbeting, mortising, tenoning, dovetailing, framing, and paneling.

In the wood-carving shop, instruction is given in surface, incisive, and relief carving, in pyrography, and on the character of cutting edges.

In the pattern shop, exercises are given in scroll sawing, turning, and pattern making, including patterns and core boxes for gears, pulleys, and pipe joints. Lectures are also given on core-making, mold-making and casting.

Thus, the course in wood-working has taught the student the source, nature, and uses of the material he has fashioned, and he has actually fabricated useful and ornamental articles of wood.

In the sheet metal shop, soldering and general work in sheet metals, including repousse' and Venetian iron work, are extensively taught.

The forge-shop is fitted with thirteen Buffalo forges of the down-draft system, and one portable forge. Exercises are given

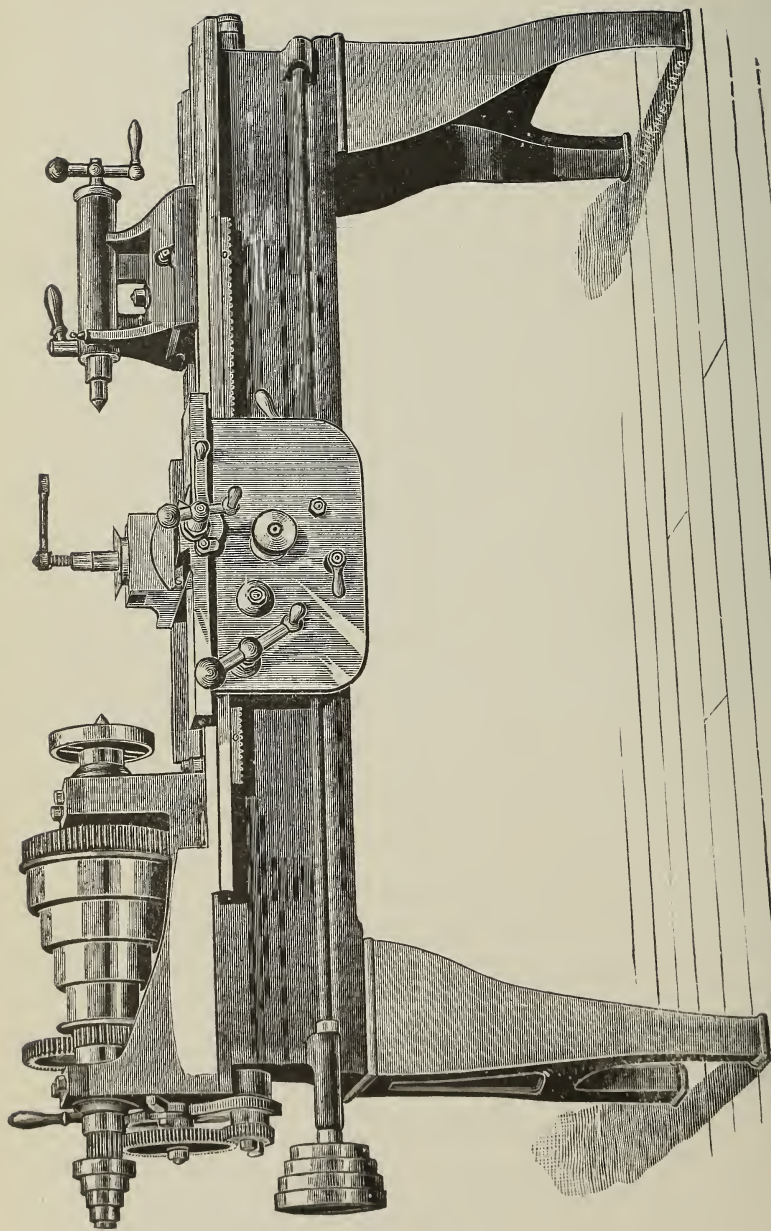
in heating, bending, drawing, upsetting, welding, annealing, case-hardening, and the making and tempering of machine cutting tools.

The machine shop is equipped with twenty lathes, two planers, two shapers, one milling machine, two drill presses, and a vise bench eighty-five feet long fitted with twenty-four four-inch vises. An excellent course at the bench and machine is here given, the student working from scale drawings.

In the chemical and physical laboratory will be found a full line of chemicals with the necessary flasks, tubes, retorts, etc.; and among the physical apparatus are an Attwood machine, balances, the elementary machines, air pump, Marriotte's tube, photometer, spectroscopes, polariscope, heliostat, mirrors, lenses, electric lantern, ammeters, voltmeters, recording meters, Wheatstone bridge, galvanometers, magnetometer, condensers, induction coil, and a miniature power plant with switchboard equipment.

In the mechanical drawing room are fifty tables of approved design, and an equipment of instruments and models well adapted to the requirements of an advanced course in the subject.

In the freehand drawing room are facilities for giving instruction in Perspective, and in Drawing in Charcoal and Colors from Still Life and the Cast.



BUILT BY STUDENTS.

COURSE OF INSTRUCTION.

At present there is a preparatory department consisting of two classes of the seventh and eighth grammar grades, and their course of instruction is exactly parallel to that of the corresponding classes of the grammar schools, with the exception that they are given four hours instruction each week in carpentry and sheet metal work.

As no accessions were made to these preparatory classes this year, it would appear to be the intention to supersede this class of instruction by the establishment in the city of manual training centres, at which grammar school pupils will attend some definite period each week.

DEPARTMENT OF ENGLISH.

FIRST YEAR COURSE—C CLASS.

Composition and Rhetoric.—32 weeks, 2 hours a week.

Study of text and frequent written exercises upon the following topics: Choice of words—Standard Usage and Good Taste. Phraseology—Position of Modifiers; Concord; Correctness; Clearness. Studies in Style—Force; Rapidity; Smoothness.

Text-book, Genung's- Outlines of Rhetoric.

Literature.—32 weeks, 2 hours a week.

- (a) Leading facts in the lives of the representative American writers. Text-book, Shaw's History of English and American Literature.
- (b) Reading and study in class of the following selections: Legend of Sleepy Hollow, Tanglewood Tales, Forest Hymn, Tales of a Wayside Inn, The Gold Bug, Snow Bound, Vision of Sir Launfal, Selections from Holmes.

- (c) Pupils are expected to read at home: *Treasure Island*, *Tom Brown at Rugby*, *Two Years Before the Mast*, *Nicholas Nickleby*. Tests will be made, at stated intervals, upon the subject-matter of these books.

English History.—32 weeks, 2 hours a week.

The subject is taught both chronologically and topically. Especial stress is laid upon *Magna Charta*; the *Bill of Rights*; the *Writ of Habeas Corpus*; the Development of the English Constitution.

Text-book, Montgomery's *English History*.

Physiology and Hygiene.—32 weeks, 2 hours a week.

Recitations upon the Respiratory and Nervous Systems. Review of the entire book. Special teaching with reference to the injurious effects of alcohol, tobacco, opium, and other narcotics. Instruction in "first aid to the injured," such as artificial respiration, arrest of severe hemorrhage, extemporizing splints, and transportation of the injured.

Text-book, Martin's *Human Body*.

SECOND YEAR COURSE—B CLASS.

Composition and Rhetoric.—32 weeks, 2 hours a week.

Study of text and frequent written exercises upon the Sentence, the Paragraph, and the Whole Composition. Forms of Discourse. Text-book, Genung's *Outlines of Rhetoric*.

Literature.—32 weeks, 1 hour a week.

- (a) Leading facts in the lives of the representative English writers. Text-book, Shaw's *History of English and American Literature*.
- (b) The following-named books are to be read at home (Requirements of the Committee of Ten for 1902): *The Merchant of Venice*; *Pope's Iliad*, Books I., VI., XXII. and XXIV.; *Sir Roger de Coverly Papers*; *The Vicar of Wakefield*; *The Ancient Mariner*; *Ivanhoe*; *The Last of the Mohicans*; *The Princess*; *Silas Marner*.
- (c) Tests will be made, at stated intervals, upon the subject-matter of these books.

Ancient History.—32 weeks, 2 hours a week.

In this year Roman History is taught with special reference to the influence of the military and political policies, customs, and laws of the Romans upon the later civilization of Europe, together with some history of Roman literature and religion.

Text-book, Allen's *History of the Roman People*.

THIRD YEAR COURSE—A CLASS.

Literature.—32 weeks, 2 hours a week.

Study of the works selected for 1901 by the Committee on Uniform Entrance Requirements. The works prescribed are Macbeth, Macaulay's Essays on Milton and Addison, Burke's Speech on the Conciliation of America, and Milton's Comus, Lycidas, Il Penseroso, and L'Allegro.

Ancient History.—32 weeks, 1 hour a week.

The study of the Histories of Greece and Egypt occupies this year. An insight is given into the Religion, Monuments, and Arts and Sciences of the Ancient Egyptians. The growth of Sparta and Athens, their struggle for supremacy, and their constitutions and laws, together with a study of Grecian character as displayed by their religion, architecture, literature, and philosophy, forms the principal work in Grecian History.

Text-book, Myer's Eastern Nations and Greece.

LANGUAGE.

THIRD YEAR COURSE—A CLASS.

German.—32 weeks, 3 hours a week.

Study of the grammar, and reading.

THIRD YEAR COURSE—B CLASS.

German.—32 weeks, 2 hours a week.

Reading, composition, and conversation. The course is designed to facilitate the reading, rather than the speaking, of German.

Text books :—Otis' Elementary German, Brandt's German Grammar, Schiller's Der Neffe Als Onkel.

DEPARTMENT OF MATHEMATICS.

FIRST YEAR—C CLASS.

Algebra.—32 weeks, 4 hours a week.

The reduction and solution of quadratic equations; ratio and proportion; arithmetical, geometrical, and harmonical progressions; permutations; combinations; binomial theorem; summation of series; computation and use of logarithms.

Geometry.—32 weeks, 3 hours a week.

Geometry of the straight line and circle; proportion; properties of similar figures; areas.

Bookkeeping.—32 weeks, 2 hours a week.

The Sadler-Rowe Co. Budget System.

SECOND YEAR—B CLASS.

Geometry.—20 weeks, 2 hours a week.

Regular polygons; lines and planes in space; polyhedrons; cylinder; cone; sphere.

Algebra.—20 weeks, 2 hours a week.

Comprehensive review of the work of the preceding year.

Trigonometry.—12 weeks, 4 hours a week.

Functions of the acute angle; derivation of formulae; use of tables.

THIRD YEAR—A CLASS.

Trigonometry.—20 weeks, 4 hours a week.

The right triangle; Goniometry; the oblique triangle.

Analytic Geometry.—32 weeks, 4 hours a week.

The conic sections; transformation of co-ordinates; construction of loci.

Descriptive Geometry.—Time taken from Mechanical Drawing, as the subject is taught in conjunction with that subject.

Projections; problems in straight line and plane; projections and sections of solids; curved surfaces and tangent planes; development and projection of screw threads; intersection of surfaces.

Mechanics.—12 weeks, 4 hours a week, and additional time charged to Engineering and Applied Mechanics, as instruction is given directly with that subject.

Parallelogram of forces; resolution of forces; triangle of forces; graphic solution of simple static problems; dynamics of the steam engine. Text-books:—Ray's Higher Algebra, Wentworth's Plane and Solid Geometry, Wentworth's Plane and Spherical Trigonometry, Wentworth's Analytic Geometry, Low's Descriptive Geometry, Goodeve's Principles of Mechanics.

DEPARTMENT OF PHYSICS AND CHEMISTRY.

FIRST YEAR—C CLASS.

Physics.—32 weeks, 3 hours a week.

Properties of matter; C. G. S. units; falling bodies; work and power; elementary mechanics; specific gravity; elements of hydro-mechanics; pressure and expansion of air; lectures illustrated by experiments; practical work in laboratory.

SECOND YEAR—B CLASS.

Physics.—32 weeks, 4 hours a week.

Heat.—Thermometers; calorimetry; coefficients of expansion; boiling points; distillation; latent heat; laws of thermodynamics; mechanical equivalent of heat.

Electricity.—Magnetism, currents; induction; static electricity; deduction of formulae; lectures and experiments; practical work in laboratory.

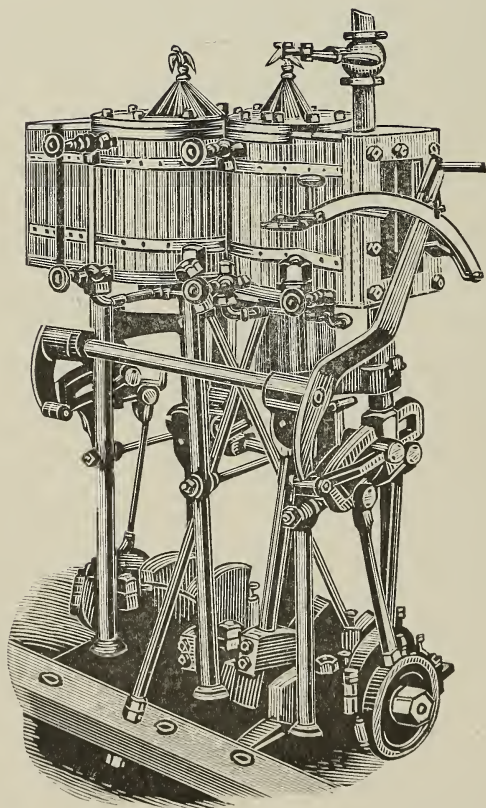
THIRD YEAR—A CLASS.

Physics.—32 weeks, 2 hours a week.

Lectures and recitations in applied electricity, including electro-chemical action; principles of the dynamo, motor, and transformer; railways; line and machine testing; telegraph and telephone; electric lighting. Practical work in laboratory.

Chemistry.—32 weeks, 2 hours a week.

Recitations in general chemistry. Experiments and laboratory work illustrating text. Text-books:—Gage's Principles of Physics, Thompson's Electricity and Magnetism, Remsen's Elementary Chemistry.



Compound Engine, built by students after
design of the Bureau of Steam Engineering,
Navy Department.

DEPARTMENT OF ENGINEERING AND APPLIED MECHANICS.

The instruction in this department is necessarily limited in consequence of the briefness of the course and lack of facilities.

The conversion into a model this year of the vertical compound engine of 65 I. H. P., built by the students, after the design of the Bureau of Steam Engineering of the Navy Department, has materially increased the facilities for the intelligent study of the theory of the steam engine, but the limited time permits of only very inadequate instruction in Applied Mathematics and Design. It is believed that the course will soon be increased to four years, and some additional appliances furnished for practical work; in the event of which changes, a correction of this necessarily incomplete instruction may be expected.

FIRST YEAR—C CLASS.

Lectures and practical exercises.

- (a) *Carpentry*.—20 Weeks, 6 hours a week. (See page 20).
 - (b) *Sheet Metal*.—12 Weeks, 6 hours a week.
Soldering; tin and sheet iron; Venetian iron and repousse' work.
 - (c) *Mechanical Drawing*.—32 weeks, 4 hours a week.
Use of instruments; lettering; elementary lessons
-

SECOND YEAR—B CLASS.

Lectures and practical exercises.

- (a) *Carving*.—8 weeks, 9 hours a week.
Surface and incisive.
- (b) *Forge*.—12 weeks, 9 hours a week.
Heating, bending, drawing, upsetting, welding, annealing.
- (c) *Pattern*.—12 Weeks, 9 hours a week. (See page 20).
- (d) *Mechanical Drawing*.—32 weeks, 5 hours a week.
Hatching; tinting; neatness and accuracy; scale drawings.

THIRD YEAR—A CLASS.

Lectures and recitations.—32 weeks, 4 hours a week.

- (a) Early history and progress of steam engineering; the conversion of motion; work; efficiency; the heat engine; combustion; economy of fuel; the indicator; expansion of steam; horse power; valve motions; details of steam engine; clearance; compound and triple expansion engines; condensers; governors; Zeuner diagram; crank effort diagram with the consideration of the effect of inertia of reciprocating parts; boilers; engineering materials.
- (b) *Design*.—Some part of an engine, such as cylinder, connecting rod, piston valve.
- (c) *Mechanical Drawing*.—32 weeks, 4 hours a week.

Detail drawings of machines from free hand sketches; a working drawing, tracing, and blue print of some designed part. Descriptive Geometry (see page 26).

Practice.—32 weeks, 6 hours a week.

Actual running of the power engine and of a triple expansion engine, both built by the students; valve setting; testing for tensile and compressional strengths with a Riehle machine; work at the lathe, planer, milling machine, drill press, and vise; forging and tempering machine cutting tools; casehardening; chasing. Text-books:—Goodeve's Steam Engine, Holme's Steam Engine, Goodeve's Principles of Mechanics.

Reference books:—Unwin's Elements of Machine Design and Line-ham's Text-book of Mechanical Engineering.

REQUIREMENTS FOR ADMISSION.

Pupils who successfully pass the prescribed Grammar School Course of the Public School System of Baltimore, may enter without examination.

Pupils of the eighth (highest) grammar school grade, who are at least fourteen years of age and of good moral character, and who fail of recommendation for promotion, may be admitted after passing a satisfactory examination in the course of studies prescribed for the eighth grade. This examination will be held during the last week of June, and timely notice of the exact dates will be given in the daily papers of the city.

For the accommodation of pupils who may have been prevented from taking the June examination, a special entrance examination will be given during the first week after the opening of the public schools in September.

Students whose parents or guardians are not *bona fide* residents of Baltimore, must pay a fee of \$50.00 per annum, payable quarterly in advance to the Secretary of the School Board. This fee is for tuition and for the use of books. Non-residents who pay taxes on city property are exempt from paying for their sons the fee for tuition and books.

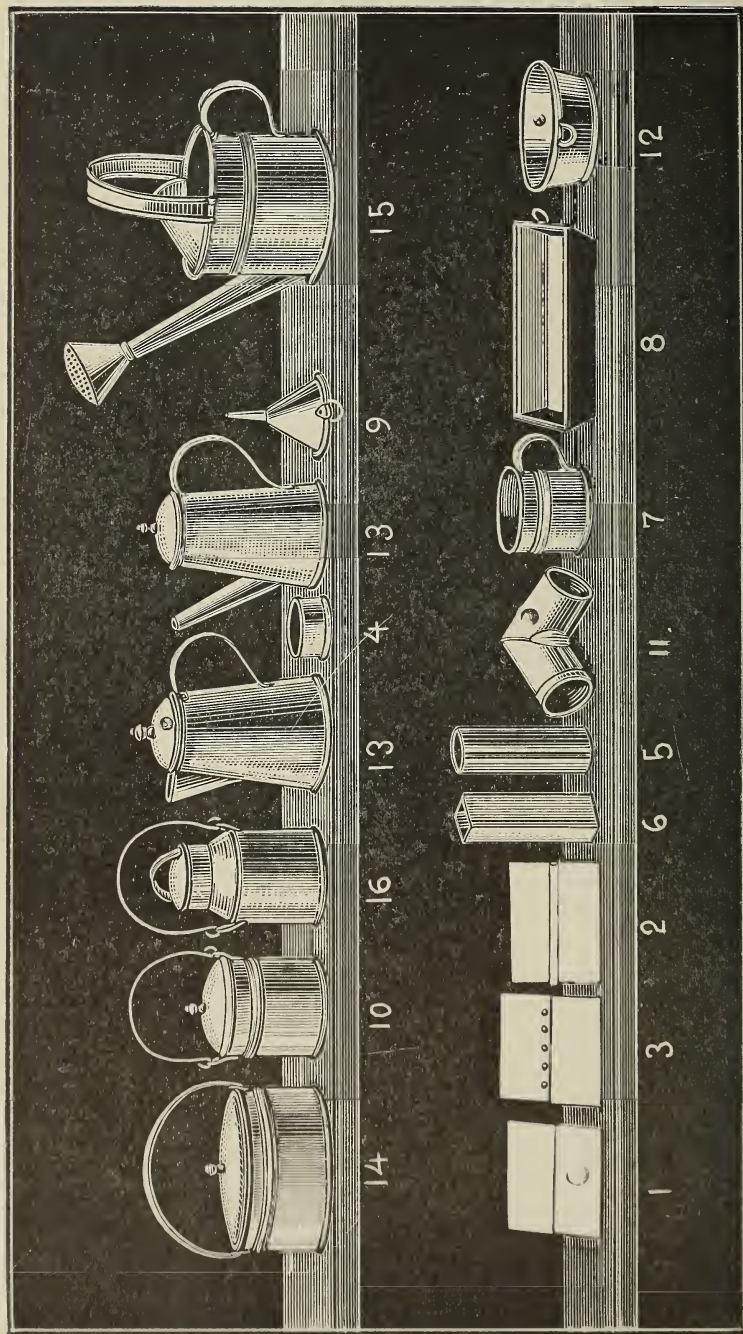
No non-resident applicant will be admitted without passing the required examination and obtaining a permit from the Secretary of the Board of School Commissioners; such permit must be accompanied with a certificate of vaccination and a coupon showing the payment of the fee for the current quarter, or, in lieu of the latter, a free permit.

The course of study of the eighth grade, which is the basis of the entrance examination, embraces the following subjects, viz:—Spelling, reading, writing, grammar, composition, arithmetic, algebra through quadratic equations, the first three books of Wentworth's Plane and Solid Geometry (or an equivalent), geography, history of the United States, physiology, and elementary physics.

MERIT ROLLS.

Merit rolls, showing the proficiency of students in each branch of study, are made out annually for the different classes.

Each subject is assigned a coefficient indicative of its relative weight ; and the final mark of a student in a subject (on a scale of 100) is multiplied by its coefficient. The sum of the products is the final mark of the student for the year. This mark is a certain percentage of the sum of the coefficients, and such percentage is the student's average for the year.



TIN WORK.

| Order of Merit | Subjects | | Analytic Geom. | | | | Chem | |
|----------------|---------------|------|---------------------|---------------------|----------------------|------|---------------------|---|
| | Coefficients | Term | 4 | | Ment. No. & Multiple | 3 | | |
| | | | Exm 3 rd | Exm 4 th | | Term | Exm 3 rd | |
| | | | | | | | | |
| 1 | J.M.F. Bizard | 94 | 99 | 96 | No. 1 384 | 97 | 99 | 5 |
| 2 | R.S. Houck | 80 | 94 | 85 | No. 7 340 | 95 | 98 | 5 |
| 3 | G.F. Parsons | 92 | 93 | 92 | No. 2 368 | 97 | 92 | 5 |
| 4 | S.M. Johnson | 82 | 86 | 83 | No. 9 332 | 90 | 95 | 5 |
| 5 | L.C. Wright | 86 | 88 | 87 | No. 5 348 | 89 | 67 | 4 |
| 6 | W.B. Butcher | 86 | 90 | 87 | No. 4 348 | 89 | 83 | 4 |
| 7 | G.T. Inck | 88 | 77 | 84 | No. 8 336 | 91 | 74 | 2 |
| 8 | H.H. Faust | 75 | 95 | 82 | No. 16 328 | 88 | 91 | 4 |
| 9 | T.O. Wandsbom | 81 | 84 | 82 | No. 10 328 | 90 | 79 | 2 |
| 10 | M. Moore | 84 | 97 | 88 | No. 3 352 | 95 | 87 | 4 |
| 11 | J.C. Masopust | 75 | 87 | 79 | No. 8 316 | 83 | 92 | 4 |
| 12 | W. Groverman | 86 | 86 | 86 | No. 6 344 | 82 | 70 | 4 |
| 13 | L.G. Alibutt | 82 | 79 | 81 | No. 12 324 | 82 | 52 | 4 |

MERIT ROLL OF THE GRADUATING CLASS OF 1900.

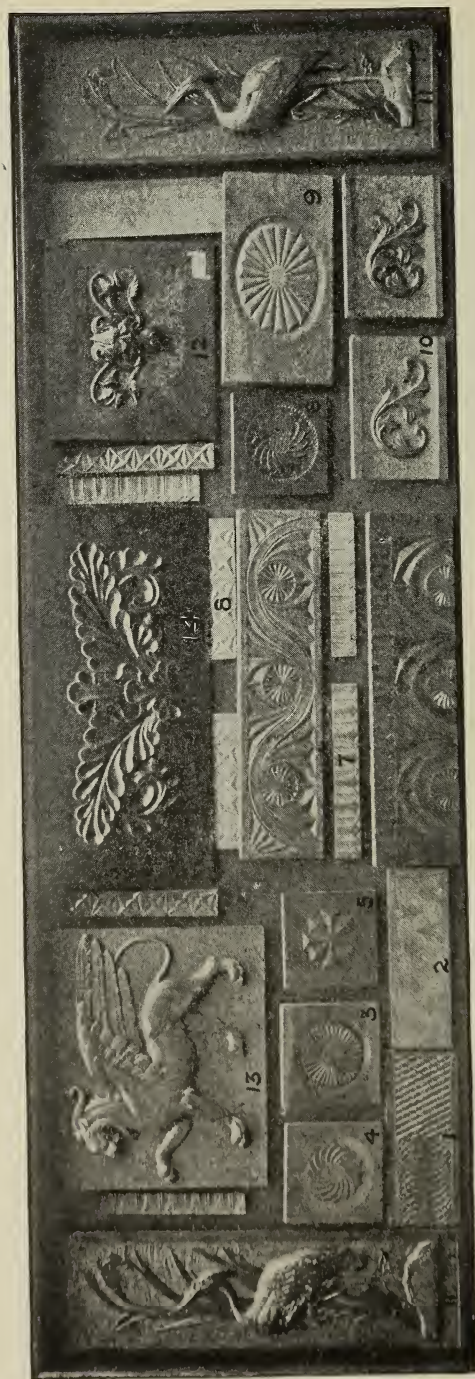
| Order of Merit | Subjects | Analytic Geom. | | | | Chemistry | | | | Electricity | | | | German | | | | History | | | | Drawing | | | | Rev. Alg. & Geom. | | | | Rhet. & Classics | | | | Engineering | | | | Trigonometry | | | | Shop Work | | | | Conduct | | Total Multiple | Final Average |
|----------------|----------------|----------------|------|-----|----------------------|-----------|------|-----|----------------------|-------------|------|-----|----------------------|--------|------|-----|----------------------|---------|------|-----|----------------------|---------|------|-----|----------------------|-------------------|------|-----|----------------------|------------------|------|-----|----------------------|-------------|------|-----|----------------------|--------------|------|-----|----------------------|-----------|------|-------|--------|---------|-------|----------------|---------------|
| | Coefficients | 4 | | | | 3 | | | | 6 | | | | 3 | | | | 2 | | | | 6 | | | | 3 | | | | 5 | | | | 8 | | | | 5 | | | | 5 | | | | 55 | | | |
| | | Term | Exm. | RTS | Merit No. & Multiple | Term | Exm. | RTS | Merit No. & Multiple | Term | Exm. | RTS | Merit No. & Multiple | Term | Exm. | RTS | Merit No. & Multiple | Term | Exm. | RTS | Merit No. & Multiple | Term | Exm. | RTS | Merit No. & Multiple | Term | Exm. | RTS | Merit No. & Multiple | Term | Exm. | RTS | Merit No. & Multiple | Term | Exm. | RTS | Merit No. & Multiple | Term | Exm. | RTS | Merit No. & Multiple | | | | | | | | |
| 1 | J.W.F. Blizard | 94 | 99 | 96 | No. 1 | 97 | 99 | 98 | No. 2 | 93 | 94 | 93 | No. 2 | 92 | 83 | 89 | No. 4 | 98 | 97 | 98 | No. 1 | 99 | 90 | 96 | No. 1 | 97 | 97 | 97 | No. 2 | 96 | 99 | 97 | No. 2 | 98 | 98 | 98 | No. 1 | 97 | 98 | 97 | No. 2 | 94 | 97 | 95 | No. 1 | 78 | 3.90 | 51.85 | 94.27 |
| 2 | R.S. Houck | 80 | 94 | 85 | No. 7 | 95 | 98 | 96 | No. 2 | 97 | 99 | 98 | No. 2 | 85 | 58 | 76 | No. 11 | 95 | 98 | 96 | No. 2 | 85 | 94 | 88 | No. 7 | 82 | 88 | 84 | No. 2 | 90 | 92 | 91 | No. 2 | 89 | 73 | 84 | No. 3 | 89 | 100 | 93 | No. 4 | 91 | 86 | 89 | No. 7 | 100 | 5.00 | 49.53 | 96.05 |
| 3 | G.F. Parsons | 92 | 93 | 92 | No. 2 | 97 | 82 | 92 | No. 5 | 86 | 78 | 83 | No. 4 | 88 | 88 | 88 | No. 5 | 92 | 100 | 94 | No. 3 | 94 | 93 | 94 | No. 2 | 74 | 87 | 78 | No. 6 | 79 | 78 | 79 | No. 7 | 84 | 72 | 80 | No. 4 | 93 | 98 | 95 | No. 2 | 94 | 89 | 92 | No. 2 | 84 | 4.20 | 47.82 | 86.95 |
| 4 | S.M. Johnson | 82 | 86 | 83 | No. 9 | 90 | 95 | 92 | No. 4 | 89 | 83 | 87 | No. 3 | 83 | 90 | 85 | No. 6 | 78 | 18 | 58 | No. 13 | 92 | 95 | 92 | No. 4 | 83 | 76 | 82 | No. 4 | 85 | 86 | 85 | No. 3 | 91 | 75 | 86 | No. 2 | 90 | 98 | 93 | No. 3 | 85 | 90 | 85 | No. 4 | 77 | 3.85 | 47.03 | 85.62 |
| 5 | L.C. Wright | 86 | 88 | 87 | No. 5 | 89 | 67 | 82 | No. 11 | 82 | 82 | 81 | No. 6 | 91 | 70 | 84 | No. 7 | 89 | 95 | 91 | No. 5 | 89 | 95 | 92 | No. 5 | 76 | 72 | 74 | No. 8 | 79 | 82 | 80 | No. 5 | 82 | 72 | 79 | No. 5 | 85 | 86 | 85 | No. 6 | 93 | 70 | 85 | No. 11 | 100 | 5.00 | 46.64 | 84.80 |
| 6 | W.B. Buttner | 86 | 90 | 87 | No. 4 | 89 | 83 | 87 | No. 7 | 84 | 79 | 82 | No. 5 | 85 | 69 | 86 | No. 9 | 89 | 98 | 92 | No. 4 | 87 | 75 | 83 | No. 9 | 83 | 85 | 84 | No. 3 | 85 | 78 | 79 | No. 6 | 82 | 69 | 77 | No. 7 | 90 | 77 | 86 | No. 5 | 94 | 90 | 85 | No. 5 | 99 | 4.95 | 46.61 | 84.75 |
| 7 | G.L. Linck | 88 | 77 | 84 | No. 8 | 91 | 74 | 85 | No. 10 | 81 | 69 | 77 | No. 8 | 92 | 88 | 91 | No. 8 | 87 | 72 | 82 | No. 6 | 94 | 92 | 93 | No. 3 | 71 | 68 | 70 | No. 8 | 78 | 76 | 77 | No. 9 | 82 | 59 | 74 | No. 9 | 85 | 85 | 85 | No. 7 | 92 | 74 | 86 | No. 8 | 99 | 4.95 | 45.85 | 83.36 |
| 8 | H.K. Faust | 75 | 95 | 82 | No. 10 | 88 | 91 | 89 | No. 6 | 79 | 79 | 79 | No. 7 | 80 | 76 | 79 | No. 10 | 70 | 44 | 62 | No. 12 | 89 | 90 | 89 | No. 6 | 54 | 68 | 204 | No. 12 | 74 | 70 | 73 | No. 10 | 76 | 63 | 72 | No. 11 | 93 | 83 | 85 | No. 8 | 97 | 4.85 | 44.37 | 80.67 | | | | |
| 9 | T.O. Wamsleben | 81 | 84 | 82 | No. 10 | 90 | 79 | 86 | No. 8 | 80 | 60 | 73 | No. 10 | 87 | 72 | 82 | No. 8 | 86 | 65 | 79 | No. 9 | 92 | 75 | 86 | No. 5 | 79 | 80 | 79 | No. 5 | 77 | 62 | 72 | No. 12 | 80 | 48 | 69 | No. 13 | 85 | 78 | 83 | No. 10 | 92 | 89 | 91 | No. 3 | 79 | 3.95 | 43.58 | 79.24 |
| 10 | M. Moore | 84 | 97 | 88 | No. 3 | 95 | 87 | 92 | No. 3 | 77 | 72 | 75 | No. 9 | 98 | 74 | 90 | No. 5 | 81 | 63 | 75 | No. 11 | 85 | 45 | 72 | No. 10 | 81 | 72 | 78 | No. 7 | 87 | 78 | 84 | No. 4 | 77 | 80 | 78 | No. 6 | 82 | 73 | 79 | No. 11 | 82 | 89 | 4.45 | 60 | 3.00 | 43.48 | 79.05 | |
| 11 | J.C. Masopust | 75 | 87 | 79 | No. 13 | 83 | 92 | 86 | No. 9 | 61 | 68 | 63 | No. 12 | 96 | 91 | 94 | No. 1 | 82 | 68 | 77 | No. 10 | 84 | 78 | 82 | No. 10 | 72 | 66 | 70 | No. 11 | 70 | 73 | 71 | No. 11 | 79 | 70 | 76 | No. 8 | 78 | 78 | 78 | No. 12 | 87 | 75 | 83 | No. 12 | 97 | 4.25 | 43.43 | 78.98 |
| 12 | W. Grovetman | 86 | 86 | 85 | No. 6 | 82 | 70 | 77 | No. 12 | 70 | 69 | 70 | No. 11 | 82 | 61 | 75 | No. 12 | 75 | 90 | 80 | No. 7 | 84 | 45 | 71 | No. 13 | 69 | 82 | 73 | No. 9 | 75 | 58 | 70 | No. 13 | 80 | 64 | 75 | No. 10 | 84 | 80 | 83 | No. 8 | 91 | 77 | 86 | No. 10 | 74 | 3.70 | 41.90 | 76.18 |
| 13 | L.G. Allbutt | 82 | 79 | 81 | No. 12 | 82 | 32 | 65 | No. 13 | 63 | 39 | 55 | No. 13 | 87 | 42 | 72 | No. 13 | 84 | 70 | 79 | No. 8 | 84 | 55 | 74 | No. 11 | 73 | 40 | 62 | No. 13 | 78 | 78 | 78 | No. 8 | 74 | 36 | 61 | No. 13 | 55 | 66 | 330 | No. 15 | 87 | 72 | 82 | No. 2 | 100 | 5.00 | 39.71 | 72.20 |

CATALOGUE OF PUPILS
IN THE
PREPARATORY DEPARTMENT.

(Corrected to December 1, 1900.)

SEVENTH GRAMMAR SCHOOL GRADE—89 Members.

| | |
|-----------------------------|-----------------------|
| Arthur, David | Furr, Travis |
| Asendorf, Frederick L. | Gewecke, Edward A. |
| Baldwin, Charles A. | Graf, Henry |
| Bamberger, George E. | Grimes, James F. |
| Beitler, William A. | Gross, Frederick G. |
| Bensel, John Henry | Hand, James E. |
| Bittle, Hawley | Harmeyer, Clarence |
| Blaney, Herman H. | Hay, John C. |
| Bode, Walter G. | Heathcote, Paul C. |
| Brack, Henry L. | Henry, Frederick |
| Bratzel, Albert A. | Holbrook, Ralph |
| Brewer, Stephen R. | Horn, J. E. Kemp |
| Brewer, William T. | Jackson, Robert F. |
| Brockman, William H. | Johnson, Reynolds |
| Brown, Charles R. | Johnson, Wilmer W. |
| Brown, Chester A. | Jones, Whitney W. |
| Burke, Charles | Knapp, Walter H. |
| Burkheimer, William B., Jr. | Kohner, Ferdie |
| Charles, Roy J. | Lollman, William D. |
| Clark, James J. | Loose, Albert W. |
| Clarkson, Charles F. | Lucke, George W. |
| Cole, William B. | Mabbett, Joseph E. |
| Conolly, James E. | Mackenzie, Ross A. |
| Dankmeyer, Charles | Michael, Joseph V. |
| Davidson, George | Mitchell, Anthony |
| Davis, Wilmer L. | Mitchell, Samuel J. |
| Dawson, Edward R. | Moore, John |
| Dehuff, George B. | Moran, William T. |
| Dorsey, Charles H. | Muth, Louis F. |
| Ennis, Howard M. | Myers, Arthur |
| Fehsenfeld, Arthur L. | O'Connor, Charles |
| Fink, Charles C. | Parker, Henry Herbert |
| Fort, Herbert W. | Penn, Francis Norris |
| Friedlein, Daniel | Pindell, John A. |
| Fritz, Theodore J. | Rahn, Paul E. |



WOOD CARVING.

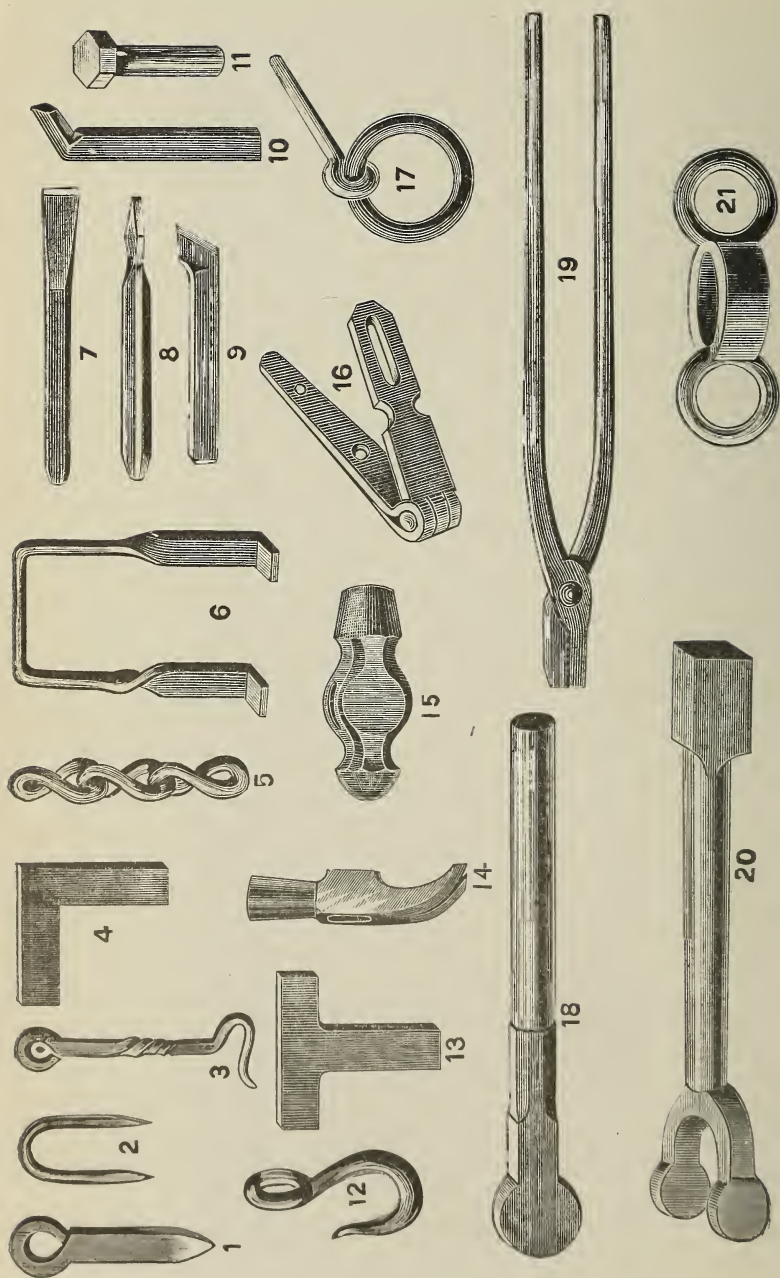
Richardson, Roland
 Robb, Henry F.
 Rodemeyer, Ernest
 Russell, Frank J.
 Sandford, Louis S.
 Saukites, Vincent F.
 Scheib, John L.
 Schroeter, William B.
 Schultheis, John W. H.
 Stewart, John C.

Stricklen, Guy M.
 Strumsky, John
 Thomas, Raymond H.
 Walter, Thomas L.
 Ward, Henry D.
 Way, Frank
 Wilkins, Edward
 Willis, James A.
 Winters, William H.

EIGHTH GRAMMAR SCHOOL GRADE—62 Members.

Aldridge, Harry L.
 Bast, Charles A.
 Bemis, Earl A.
 Bennett, Louis L.
 Bert, Daniel Loy
 Bortner, Ployd O.
 Bowlus, George E.
 Brian, John V.
 Brodie, Charles A.
 Caple, Walter J.
 Chaims, Lawrence M.
 Collins, George C.
 Dotterweich, James L.
 Edel, Charles A.
 Eilerman, John H.
 Euler, August
 Fritz, Emanuel
 Gates, James Nelson
 Gosnell, Charles M.
 Hain, Percy C.
 Harig, Clarence G.
 Harris, Major F.
 Harrison, P. Henry
 Herth, William
 Hoffacker, Benjamin F.
 Jacobs, Silas B.
 Johnston, James Grant
 Kohlhepp, Joseph W.
 Lally, Eugene.
 Leary, Daniel H.
 Loewenstein, J George.

Luers, George Arthur
 Marmor, Leon
 Mencken, Arthur B.
 Morgan, Harlan W.
 Murray, Wallace
 Parsons, Sidney H.
 Phipps, George M.
 Price, Harry W.
 Reinhardt, J. H. Philip
 Reynolds, Bernard I.
 Rogers, George Howell
 Romoser, J. Frederick
 Schindler, William T., Jr.
 Schroeder, Justice H.
 Schweitzer, John W.
 Small, Leon
 Smith, William R.
 Steele, Hugh Exton
 Stewart, Melvin
 Suehle, Ferdinand T.
 Tall, Edward R.
 Taylor, Joseph Albert
 Thompson, William Edward
 Valentini, Joseph L.
 Ware, Charles Carroll
 Warren, Chester A.
 Wilkins, Frederick
 Wilkins, Rodgers
 Willis, Charles A.
 Wittmer, William Philip
 Zipp, Walter A.



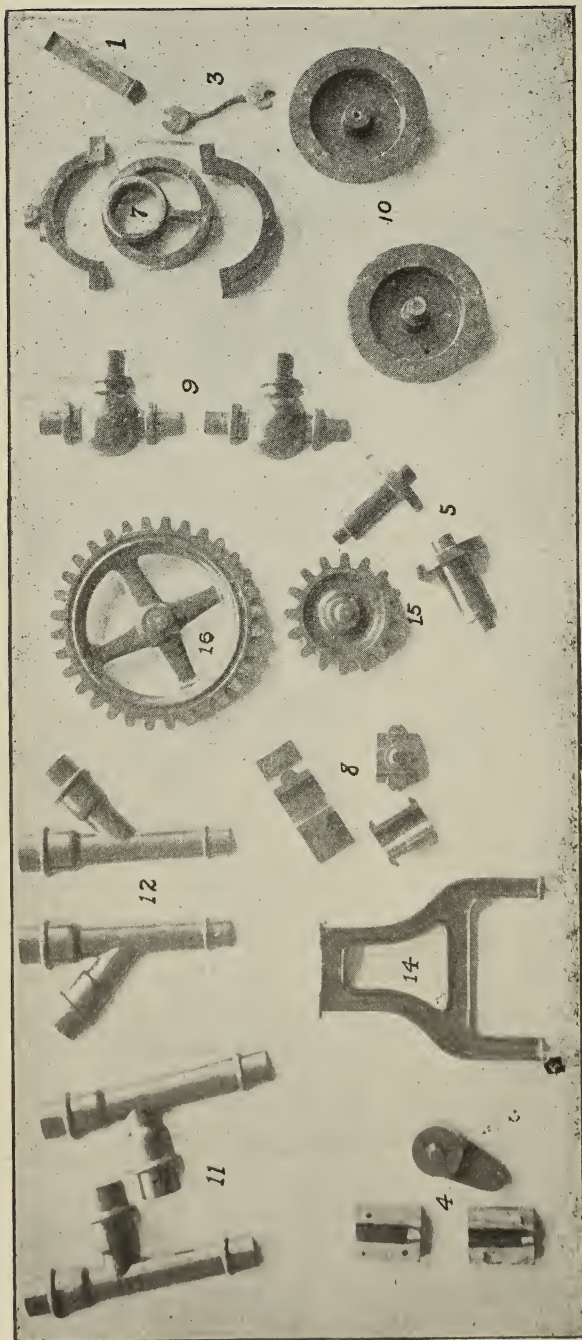
FORGE WORK.

CATALOGUE OF STUDENTS IN INSTITUTE.

(Corrected to December 1, 1900).

FIRST YEAR CLASS—76 Members.

| | |
|-----------------------|------------------------|
| Addison, Taylor, Jr. | Jones, James |
| Ahrens, Nathan | Jones, John T. |
| Allison, Frank S. | Kley, William |
| Armiger, Elmer | Kreamer, Milton |
| Aylmer, Albert R. | Lally, Eugene |
| Bachman, Ernest | Lamb, John A. |
| Backhaus, Paul | Linthicum, Hugh J. |
| Beauchamp, Roland S. | Lucke, Herman Jr. |
| Benjamin, Oscar | McIntire, Charles A. |
| Blades, Owen C. | Maloney, Joseph T. |
| Bouis, Page | Mangold, William J. |
| Brady, John T. | Marye, R. Turner |
| Brannan, Harry N. | Marston, Arthur B. |
| Burton, Frank B. | Mason, Harry M. |
| Coleman, Peter J. | Meyers, George A. |
| Crisp, William N. | Morrow, Allen |
| Crockett, Marvin H. | Newhoff, Sidney |
| Dorsey, John W. | Niles, Hezekiah |
| Dunn, M. Joseph | Northam, Manley P. |
| Ford, Ulysses S. | Parsons, Harold M. |
| Frank, Christian J. | Poole, Ernest Melville |
| Gantz, Charles K. | Rechner, Charles |
| Gibson, Robert W. | Reid, John M. |
| Green, Frank A. | Reynolds, Martin J. |
| Grove, Oscar C. | Ridgeley, Neville R. |
| Groverman, Arthur | Roberts, Nelson F. |
| Gross, John H. | Schaaf, August H. |
| Gross, Howard M. | Schultz, Howard |
| Gusdorff, Newman | Schussele, James C. |
| Hartshorn, Charles E. | Sims, George |
| Hering, Edward | Sondheim, Sidney S. |
| Herth, Charles E. | Stone, Wilmer |
| Herzog, Charles L. | Switzer, Daniel A. |
| Hess, Albert | Thompson, Walter E. |
| Immler, George C. | Voneiff, Craft W. |
| Jackson, William R. | Weber, August |
| Johnston, Frank A. | Wentz, John McF. |
| Jones, Horace Godfrey | Wright, Arthur |



PATTERN WORK.

SECOND YEAR CLASS—25 Members.

| | |
|------------------------|------------------------|
| Abercrombie, R. Fulton | Hess, John S. |
| Baldwin, Joseph A. | Lamble, Frank D. |
| Baxter, Charles H. | Langrall, Leroy M. |
| Bouis, M. Dwight | Layman, H. Quinby |
| Boyd, Frank O. | Leisenring, John G. M. |
| Cautley, John B. | Michael, William N. |
| Dall, Robert Jr. | Pettit, Charles A. |
| Davis, Franklin D. | Reynolds, Henry C. |
| DeBaufre, William L. | Samuel, William S. |
| Foster, Benjamin F. | Shryock, George Forney |
| Gieske, Walter M. | Weil, Lee Walter |
| Hays, Donald S. | Yardley, Charles F. |
| Henthorn, Joseph T. | |

THIRD YEAR CLASS—30 Members.

| | |
|-------------------------|-----------------------|
| Beehler, Joseph M. | Marston, Richard E. |
| Conway, Ernest | Mehrling, Harry |
| Demitz, William M. | Moore, Albert G. |
| Flickehschildt, John K. | Raidbaugh, John |
| Goob, Charles F. | Rinehart, Thomas W. |
| Harris, Richard G. | Rosenthal, William B. |
| Hess, Irving | Samuel, Edward |
| Hoppert, Charles W. | Siegle, John C. |
| Hubbard, Carlisle L. | Tapman, Walter H. |
| Johnston, Edward E. | Vincent, Sidney |
| Kenney, Thomas H. | Voneiff, George P. |
| Lane, Charles E. | Walton, Ernest B. |
| Lowndes, Andrew J. | Weiss, Arthur S. |
| Lynch, Ross E. | Yost, George K. |
| Malone, Allen L. | Zipp, Philip H. |



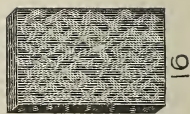
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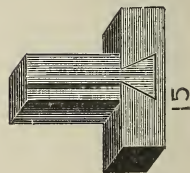
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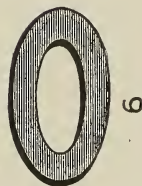
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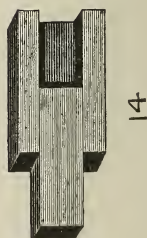
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13

VISE WORK.

LITERARY SOCIETY.

The literary society of the Institute was formerly known as "The Current Topic Literary and Debating Association," but that name was changed, in September last, to "Lowell Literary Society."

The Society's officers are students of the Institute, and the meetings are held weekly, on Friday afternoons, in the Institute Annex.

THE PRESENT OFFICERS ARE:

President,

I. C. HESS, '01.

Vice President,

THOMAS KENNEY, '01.

Secretary,

R. G. HARRIS, '01.

Treasurer,

J. C. SIEGLE, '01.

Sergeant-at-Arms,

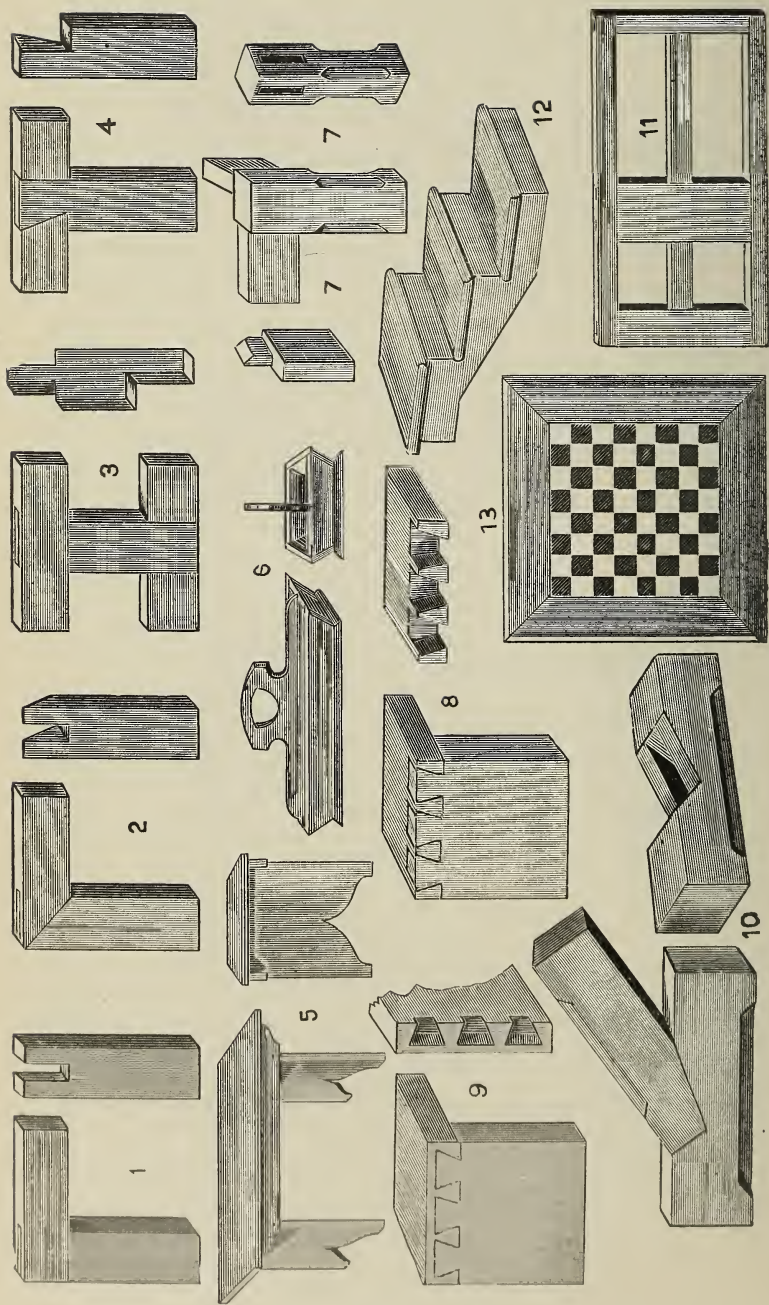
E. E. JOHNSTON, '01.

Board of Curators,

THOMAS KENNY, '01.

G. P. VONEIFF, '01.

M. KRAEMER, '03.



CARPENTRY.

CATALOGUE OF GRADUATES.

CLASS OF '87.

Clarence G. Bouis.
George C. Bump.
Lucien Dallam.
Otto H. Ehlers.
Osma K. Gardner.
Herbert F. Gorgas.
Joseph Greenbaum.
Harry W. Hahn.
Minor F. Heiskell.
Robert Hooper.
William S. Hugg.
Thomas J. Irons.
Joseph H. Kuehn.

P. Charles Nelson.
Flavius J. Pennington.
Richard Piez.
Henry M. Price.
Walter G. Rinicker.
William A. Robertson.
Albert Rosenberg.
James B. Scott.
Walter R. Sweeney.
James C. Thompson.
Adolphus Tiemeyer.
Frederick H. Wagner.

CLASS OF '88.

Arthur O. Babendrier.
Edward Binswanger.
Bernard H. Brooke.
Sydney S. Bouis.
Julius Fireman.
Thomas G. Ford.
George M. Gaither.
John H. Harvey.
Howard Harvey.
Walter J. Herrman.
Joseph H. Hooper.
John P. Jefferson.
William Johnston, Jr.

William Mencke.
William F. Mylander.
Edwin F. Orem.
Edward B. Passano.
George E. Repp.
Harry E. Roberts.
George C. Robinson.
Hanson Robinson.
Robert E. Rodgers.
George H. Sickel.
Washington B. Stanton.
Orlando C. Wicks.

CLASS OF '89.

William F. Ackerman.
Samuel R. Adams.
Morgan H. Baldwin.
Isaac Behrend.
Albert T. Barrett.
Rozier L. Bouis.
Robert H. Buschman.
Charles C. Constantine.

Edward P. Cromwell.
Howard Crosby.
John L. Ehrman.
Allyn Field.
Harry M. Ford.
Louis H. Gerding.
Arthur Gordon.
Ernest Griffith.

John S. Hand.
Joseph Isaac.
Claiborne M. James.
Albert C. Layman.
Charles W. Leach.
J. W. C. Meikle.
George W. Moog.
John K. Mount.
Robert W. Peach.

Charles E. Phelps, Jr.
William G. Robertson.
Robert C. Round.
Myron S. Rose.
William C. Seigmund.
Joseph Steifel.
Harry P. Suman.
Carroll Thomas.

CLASS OF '90.

John F. Abendschein.
G. S. Barnes.
J. H. Bokee.
John E. Broadbelt.
W. H. C. Frinholt.
Chris. Feick.
J. Froelich.
William P. Gundry.

E. C. Harris.
J. C. Mattoon.
John D. Pugh.
A. O. Robertson.
William F. Schultz.
Micheal D. Schaefer.
William P. Shriver.
Theodore Straus.

CLASS OF '91.

Walter Amos.
Basil Benson.
William Benson.
William Boucsein.
Morde Bren.
John J. Caine.
George Danuettel.
Charles Ehlers.
Ferdinand B. Keidel.

J. Edgar Knipp.
Samuel McNeal.
James C. Phillips.
Herbert M. Reese.
Edmund W. Robinson.
Reuben Row.
Warren S. Seipp.
Richard S. Warner.
William A. Young.

CLASS OF '92.

Edwin W. Antes.
John P. Baer.
Frank J. Borie.
B. Harrison Branch.
Leonard Burbank.
William C. Butler, Jr.
J. W. Dawson, Jr.
Royal R. Duncan.
Charles R. Durling.
Isidor Deutsche.
Walter H. Eisenbrandt.
William L. Holmes.

Frank B. Hooper.
Edgar N. King.
John Langford.
Louis Liepman.
R. M. Miller.
J. C. Miller.
Joseph Mullen.
William H. Rose.
Albert G. Singewald.
William H. Soine.
William E. Strans.

CLASS OF '93.

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| Theodore H. Ackerman. | James F. McShane. |
| Herbert Addison. | Clarence M. Morfit. |
| Oregon R. Benson. | F. H. Phelps. |
| Percy Thayer Blogg. | Edwin Schenck. |
| C. Raymond Carson. | John R. Uhler. |
| William John Cochran. | L. Ismay Van Horn. |
| E. C. D'Yarmett. | Charles P. Weishampel |
| Henry M. Fitzhugh. | R. L. Williams. |
| Clarence S. Hand. | |

CLASS OF '94.

| | |
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| Edward H. Bell. | Horace J. Miller. |
| Albert M. Bowen. | Louis Mueller. |
| J. Straith Briscoe. | George M. Parlett. |
| Harry Cotton. | Charles Schlicker. |
| Carroll Edgar. | Alan P. Wilson. |
| Frederick Kopp. | John Zeubert. |
| Phillip Littig, Jr. | Pliny Cutler Hall. |
| Thomas Q. McGinn. | Edward J. Herring |
| Herbert A. McGraw. | |

CLASS OF '95.

| | |
|----------------------|------------------------|
| George W. Brown. | Ward P. Littig. |
| Clifton A. Coggins. | Alfred F. Loeser. |
| Harry W. Francis. | Thomas J. H. Magness. |
| Graham B. Hall. | Herman F. Meyer. |
| William W. Hogendorp | George N. Rogers. |
| Albert J. Hooper. | Hamilton D. Ruth. |
| Frank A. Hornig. | Richard F. Weishampel. |
| Howard L. Hoskins. | Carl A. Witthaus. |
| Edward M. Likes. | |

CLASS OF '96.

| | |
|-------------------------------|-------------------------------|
| Samuel Hosea Armstrong. | Arthur Worthington Hawks, Jr. |
| Howard Douglas Bennett. | Louis Kemp Hennighausen. |
| James Gomelial Boss, Jr. | Harry Louis Homer. |
| William Augustine Boykin, Jr. | Ludford Cohoon Jones. |
| Robert Lemmon Burwell. | Leon Alvyn Kohn. |
| Harry Parr Diggs. | Erich Albert Loeser. |
| Frederick L. H. Glendmeyer. | Henry Louis Mencken. |
| William Howard Hamilton. | Harold Vincent Patterson. |

Harry Clay Powell, Jr.
 Gilmor Meredith Ross.
 Thomas Quincy Scott.
 Henry Bonn Silverthorn.
 William Henry Smith.

Frederick Worthington von Stein.
 Roscoe Conkling Sweeny.
 Charles Edwin Wilson.
 Olin Alexander Wilson.

CLASS OF '97.

Louis Fabian Bachrach.
 Alan Marion Bennett.
 William Melvin Carter.
 Elvin Griswold Cromwell.
 John Towson Elsroad, Jr.
 John Montgomery Gambrill.
 Ernest Cummins Hatch.
 William Hain Kirwan.
 Harry L. Kugler.

Chester Waters Larnier.
 Howard Osgood Preston.
 George Gottlieb Schnepfe.
 Frederick Lewis Schwartz.
 Joseph Stewart Smith, Jr.
 Douglas Alan Sparks.
 Joseph Morrison Sparks.
 Wilson Ward.

CLASS OF '98.

Thomas Jefferson Andrews.
 Alan Joseph Bachrach.
 Leo Bauersfeld.
 Wilbur McKew Bosworth.
 Frederick Derick Dollenberg, Jr.
 Romulus Griffith Doyle.
 John Howard Flayhart.
 Henry Galloway.
 Charles Raymond Gantz.
 Samuel Thomas Griffith.
 Alfred Cummins Hatch.
 William Herman Hubers, Jr.
 Joseph Lowrie Ingle, Jr.
 John Scott Longnecker.
 John Walter McGreevy.

Edward Harris Mealy.
 William Charles Metcalf.
 John Floyd Miller.
 William Eldred Nolan.
 Gurdon Tyler Pollard.
 Walter Percy Poole.
 John Maurice Rehberger.
 John McCullough Rife.
 Harry Rufus Ruse.
 Paul Edward Schaun.
 John Henry Sirich, Jr.
 John Smith.
 Herbert Turner Snyder.
 George Creamer Wilcox.

 POST GRADUATES.

William Felter Ackerman, '89.

William Henry Soine, '92.

CLASS OF '99.

| | |
|------------------------|---------------------|
| Allen, Chas. E. | Lowenthal, Harry. |
| Boettinger, Wm. G. | McCeney, George P. |
| Brent, Hugh W. | McCord, Wm. E. |
| Crockett, Charles C. | McCoy, Marion H. |
| Cushing, Wm. W. | Mencken, Charles E. |
| Focke, Roland S. | Owens, Charles T. |
| French, Harry B. | Schaun, Edw. L. |
| Haferkorn, G. Calvert. | Vincent Harold B. |
| Knapp, George A. | Ward, Joseph A. |

SENIOR CLASS—SECOND SECTION.

| | |
|---------------------------|--------------------------|
| Brent, Harrison. | Lucke, Charles C. |
| Clayton, Edward Goodnow. | McCleester, John N. |
| Cooke, Edward P. | McDonnell, Blakeley A. |
| Davis, Arthur Councilman. | O'Conner, Edwin G. |
| Demitz, Charles H. | Phipps, William Taylor. |
| Harper, Robert B. | Sedlacek, Emanuel J. |
| Held, Charles W. | Sternat, Frederick C. J. |
| Johnson, Ira. | Walter, Joseph R. |
| Lang, Walter B. | Whelan, William C. |



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